## WHAT IS CLAIMED IS:

1. A crystalline salt of (2R)-4-oxo-4-[3-(trifluoromethyl)-5,6-dihydro[1,2,4]triazolo[4,3-a]pyrazin-7(8H)-yl]-1-(2,4,5-trifluorophenyl)butan-2-amine of structural formula I:

or a hydrate thereof;

wherein HX is an acid selected from the group consisting of hydrochloric acid, tartaric acid, benzenesulfonic acid, p-toluenesulfonic acid, and 10-camphorsulfonic acid.

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- 2. The crystalline salt of Claim 1 wherein said acid is hydrochloric acid.
- 3. The crystalline salt of Claim 1 wherein said acid is benzenesulfonic acid.
- 15 4. The crystalline salt of Claim 1 wherein said acid is p-toluenesulfonic acid.
  - 5. The crystalline salt of Claim 1 wherein said acid is tartaric acid.
  - 6. The crystalline salt of Claim 1 wherein said acid is 10-camphorsulfonic acid.

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- 7. The crystalline salt of Claim 5 wherein said tartaric acid is L-tartaric acid.
- 8. The crystalline salt of Claim 5 wherein said tartaric acid is D-tartaric acid.
- 25 9. The crystalline salt of Claim 6 wherein said 10-camphorsulfonic acid is (1*S*)-(+)-10-camphorsulfonic acid.
  - 10. The crystalline salt of Claim 6 wherein said 10-camphorsulfonic acid is (1R)-(-)-10-camphorsulfonic acid.

- 11. The crystalline hydrochloric acid salt of Claim 2 characterized as being a monohydrate.
- The crystalline hydrochloric acid salt of Claim 11 characterized by characteristic reflections obtained from the X-ray powder diffraction pattern at spectral d-spacings of 3.0, 3.3, 3.5, 6.5, and 11.0 angstroms.
- 13. The crystalline hydrochloric acid salt of Claim 12 further characterized by the X-10 ray powder diffraction pattern of FIG. 1.
  - 14. The crystalline hydrochloric acid salt of Claim 11 further characterized by the differential scanning calorimetric (DSC) curve of FIG. 3.
- 15. The crystalline hydrochloric acid salt of Claim 11 further characterized by the thermogravimetric analysis (TGA) curve of FIG. 2.
  - 16. The crystalline L-tartaric acid salt of Claim 7 characterized as being a hemihydrate.

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- 17. The crystalline L-tartaric acid salt of Claim 16 characterized by characteristic reflections obtained from the X-ray powder diffraction pattern at spectral d-spacings of 3.2, 3.4, 3.8, 4.1, 4.3, 4.9, and 5.8 angstroms.
- 25 18. The crystalline L-tartaric acid salt of Claim 17 further characterized by the X-ray powder diffraction pattern of FIG. 4.
  - 19. The crystalline L-tartaric acid salt of Claim 16 further characterized by the differential scanning calorimetric (DSC) curve of FIG. 6.
  - 20. The crystalline L-tartaric acid salt of Claim 16 further characterized by the thermogravimetric analysis (TGA) curve of FIG. 5.
- 21. The crystalline benzenesulfonic acid of Claim 3 characterized as being an anhydrate.

22. The crystalline benzenesulfonic acid salt of Claim 21 characterized by characteristic reflections obtained from the X-ray powder diffraction pattern at spectral d-spacings of 3.4, 3.7, 4.0, 4.6, 4.8, 5.2, and 12.7 angstroms.

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23. The crystalline benzenesulfonic acid salt of Claim 22 further characterized by the X-ray powder diffraction pattern of FIG. 7.

- 24. The crystalline benzenesulfonic acid salt of Claim 21 further characterized by the differential scanning calorimetric (DSC) curve of FIG. 9.
  - 25. The crystalline benzenesulfonic acid salt of Claim 21 further characterized by the thermogravimetric analysis (TGA) curve of FIG. 8.
- 15 26. The crystalline *p*-toluenesulfonic salt of Claim 4 characterized as being an anhydrate.
  - 27. The crystalline p-toluenesulfonic acid salt of Claim 26 characterized by characteristic reflections obtained from the X-ray powder diffraction pattern at spectral d-spacings of 3.9, 4.3, 4.5, 5.1, 5.7, 5.9, 7.6, and 15.0 angstroms.
  - 28. The crystalline *p*-toluenesulfonic acid salt of Claim 27 further characterized by the X-ray powder diffraction pattern of FIG. 10.
- 25 29. The crystalline *p*-toluenesulfonic acid salt of Claim 26 further characterized by the differential scanning calorimetric (DSC) curve of FIG. 12.
  - 30. The crystalline p-toluenesulfonic acid salt of Claim 26 further characterized by the thermogravimetric analysis (TGA) curve of FIG. 11.
  - 31. The crystalline (1S)-(+)-10-camphorsulfonic acid salt of Claim 9 characterized in being an anhydrate.

32. The crystalline (1S)-(+)-10-camphorsulfonic acid salt of Claim 31 characterized by characteristic reflections obtained from the X-ray powder diffraction pattern at spectral d-spacings of 3.4, 3.5, 4.0, 5.1, 5.3, 6.3, and 13.5 angstroms.

- 5 33. The crystalline (1*S*)-(+)-10-camphorsulfonic acid salt of Claim 32 further characterized by the X-ray powder diffraction pattern of FIG. 13.
  - 34. The crystalline (1S)-(+)-10-camphorsulfonic acid salt of Claim 31 further characterized by the differential scanning calorimetric (DSC) curve of FIG. 15.

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- 35. The crystalline (1S)-(+)-10-camphorsulfonic acid salt of Claim 31 further characterized by the thermogravimetric analysis (TGA) curve of FIG. 14.
- 36. A pharmaceutical composition comprising a therapeutically effective amount of a salt according to Claim 1 in association with one or more pharmaceutically acceptable carriers or excipients.
  - 37. A method of treating Type 2 diabetes comprising administering to a mammal in need of such treatment a therapeutically effective amount of a salt according to Claim 1.
  - 38. Use a salt according to Claim 1 as active ingredient in the manufacture of a medicament for use in the treatment of Type 2 diabetes in a mammal.